

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) Disc drive apparatus for optical discs, comprising:
  - a frame;
  - a sledge displaceably mounted with respect to said frame;
  - a lens actuator displaceably mounted with respect to said sledge; a control unit for generating a control signal for the lens actuator;  
wherein the control unit is designed, during a jump operation, to continuously generate said control signal (SCL) for the lens actuator at least partly on the basis of an actuator deviation signal (SAS) representing a difference between actuator position (XA) and sledge position (XS) irrespective of a position of the lens actuator with respect to an optical disk.

2-6. (Canceled)

7. (Previously presented) The apparatus according to claim 1, wherein said control unit comprises a control circuit having an input receiving said actuator deviation signal (SAS) and having an output providing said lens actuator control signal (SCL);

the control circuit comprising a proportional branch generating a control signal contribution proportional to said actuator deviation signal (SAS).

8. (Previously presented) The apparatus according to claim 7, wherein said control circuit further comprises:

an adder having an output connected to said circuit output;  
a first amplifier having an input coupled to said circuit input and having an output coupled to an input of said adder.

9. (Previously presented) The apparatus according to claim 8, wherein said control circuit further comprises:

a differentiating circuit having an input coupled to said circuit input;  
a second amplifier having an input coupled to an output of said

differentiating circuit and having an output coupled to an input of said adder.

10. (Previously presented) The apparatus according to claim 8, further comprising:

an optical detector generating an optical read signal (SR);

a setpoint generator generating a sledge motor drive signal (SCS);

wherein said control circuit further comprises:

processing means having an input coupled to receive said read signal (SR), and designed to process the optical read signal (SR) for generating an actuator displacement signal (SAD) indicating the displacement of the actuator with respect to tracks of the disc;

a zero-crossings counter having an input coupled to an output of said processing means, and designed to generate an output signal representing the number of zero-crossings per unit time;

a low-pass filter having an input coupled to an output of said zero-crossings counter;

a subtractor having an inverting input coupled to an output of said low-pass filter, having a non-inverting input coupled to

receive said sledge motor drive signal (SCS), and having an output coupled to an input of said adder.

11. (Previously presented) The apparatus according to claim 10, wherein said control circuit further comprises a third amplifier having an input coupled to an output of said subtractor and having an output coupled to an input of said adder.

12. (Previously presented) The apparatus according to claim 9, wherein said control circuit further comprises:

a second controllable switch having a first input coupled to the output of second amplifier, having a second input coupled to the output of said subtractor or said third amplifier, respectively, and having an output coupled to an input of said adder.

13. (Previously presented) The apparatus according to claim 7, wherein said control unit is designed, in a jump mode, to generate its actuator control signal (SCL) such as to cause an oscillating movement of the lens actuator corresponding to a track shape.

14. (Previously presented) The apparatus according to claim 7, wherein said control unit comprises a shape memory containing track shape information, and wherein the control unit, in a jump mode, is designed to read track shape information from said shape memory and to generate a tracking repetitive control signal (STRC) on the basis of the track shape information in said shape memory; wherein said control circuit further comprises:

a tracking repetitive control adder having an input coupled to an output of said first adder, having another input coupled to receive said tracking repetitive control signal (STRC), and having an output coupled to said circuit output.

15. (Previously presented) The apparatus according to claim 14, wherein the control unit, in a jump mode, is designed to read track shape information from said shape memory and to generate a compensating repetitive control signal (SCRC) on the basis of the track shape information in said shape memory;

wherein said control circuit further comprises:

a tracking repetitive control subtractor, having a non-

inverting input coupled to said circuit input, having an inverting input coupled to receive said compensating repetitive control signal (SCRC), and having an output coupled to the input end of said proportional branch.

16. (Currently amended) Apparatus—The apparatus according to claim 14, wherein the control unit is designed to write track shape information into said shape memory when the control unit is in a track following mode.

17. (Currently amended) Method for controlling a lens actuator during a jump, wherein a control signal (SCL) for said lens actuator is continuously generated at least partly on the basis of an actuator deviation signal (SAS) representing a difference between actuator position (XA) and a sledge position (XS) irrespective of a position of the lens actuator with respect to an optical disk.

18-19. (Canceled)